

R E M A R K S

The office action of December 1, 2010 has been reviewed and its contents carefully noted. Reconsideration of this case, as amended, is requested. Claims 13 and 19-32 remain in this case, claims 13, 19 and 20 being amended, and claims 21- 32 being added by this response. No new matter has been added. More specifically, the amendments to claims 13, 19 and 20 are fully supported, for example by claim 13, as filed. New claims 21-28 are fully supported, for example by claims 15-18 of the application, as filed. New claims 29-32 are fully supported, for example by claim 13, as filed.

The numbered paragraphs below correspond to the numbered paragraphs in the Office Action.

Objection to the Claims

2. Claim 20 was objected to for missing a status identifier. A status identifier now precedes claim 20. Reconsideration and withdrawal of the objection are respectfully requested.

Rejection under 35 U.S.C. §112

3. Claims 13, 19 and 20 were rejected under 35 U.S.C. §112 as being indefinite. The Examiner states that the clause “wherein the pacemaker is designed such that information sent from other pacemakers implanted into the heart is input into the control unit” is unclear. Claims 13 and 19 have been amended to overcome this rejection.

Applicant believes that these amendments have fully addressed the Examiner's rejection, and the claims are now in condition for allowance. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection under 35 U.S.C. §103

6. Claims 13, 19 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (5,411,535) in view of Heller (6,294,281). Applicant respectfully disagrees with this rejection.

Claims 13 and 19, include, in part, “wherein the control unit of the ultra miniature integrated cardiac pacemaker outputs the control signal based on the information from the at least one other ultra miniature integrated cardiac pacemaker implanted into the heart to pace the heart and mimic a natural physiological state of the heart”.

Fujii does not teach or suggest a control unit of an ultra miniature integrated cardiac pacemaker that outputs a control signal based on information from other ultra miniature integrated cardiac pacemakers implanted into the heart to pace or mimic the natural physiological state of the heart.

The Examiner states that Fujii teaches “wherein the pacemaker is designed such that information sent from other pacemakers implanted into the heart is input into the control unit (col. 7, line 66 to col. 8, line 1 and col. 5, lines 52-60 – the pacemaker 150/120 explicitly receives information directly from pacemaker 100 and indirectly from pacemaker 110, and additionally and alternatively the information received by pacemaker 150/120 is *of a type that could be sent by other pacemakers* (other pacemakers are not positively recited)); wherein the control unit outputs the control signal based on information sent from other pacemakers (105) and electrocardiographic information (col. 7, lines 56-66)....” (present office action dated December 1, 2010, page 4, lines 3-10).

The passages from Fujii et al. that the Examiner refers to above are:

“FIG. 1 schematically shows a first embodiment of the present invention.

The cardiac pacemaker has a main body 100 imbedded in the thorax, an atrium pacing electrode 110 secured to the atrium of the heart 10, and a ventricle pacing electrode 120 secured to the ventricle of the heart 10. The main body 100 and the pacing electrodes 110, 120 are connected to each other in a wireless manner.” (col. 5, lines 52-60)

“FIG. 8 is a block diagram of an electrode unit 150. The electrode unit 150 includes a receiving section 122, a demodulating section 123, an electrode section 125 (serves also as cardio-measurement electrode), a cardio-measurement electrode 135, an amplifier section 136, a transmission section 137 and a battery section 139. The cardio-information measured through the cardio-information measuring electrodes 135, 125 is amplified by the amplifier section 136 and is transmitted as cardio-information signal 200 to the pacemaker main body 100 from the transmission section 137. Meanwhile the receiving section 122 receives the transmission wave (pulse signal) 105 transmitted from the pacemaker main body 100 and delivers it to the demodulating section 123.” (col. 7, line 56 through col. 8, line 1).

It is clear from these passages that Fujii et al. teaches a single pacemaker with a main body 100, two pacing electrodes 110, 120, and an electrode section 150. These are not separate pacemakers; they are each components of the single pacemaker taught in Fujii et al. Fujii et al. does not teach or suggest that this pacemaker receives any information from other pacemakers implanted into the heart. Consequently, Fujii et al. also can not teach or suggest a control unit of a pacemaker that outputs a control signal based on information from other pacemakers to pace the heart and mimic a natural physiological state of the heart.

Regarding claims 13 and 19, Heller et al. does not provide what Fujii et al. lack. More specifically, Heller et al. does not teach or suggest a control unit of an ultra miniature integrated cardiac pacemaker that outputs a control signal based on

information from other ultra miniature integrated cardiac pacemakers implanted into the heart to pace or mimic the natural physiological state of the heart.

Since claims 13 and 19 include multiple elements not taught or suggested in Fujii et al. or Heller et al., alone or in combination, claims 13 and 19 are not obvious over Fujii et al. and Heller et al.

Claim 20, being dependent upon and further limiting claim 19, should also be allowable for that reason, as well as for the additional recitations it contains.

Reconsideration and withdrawal of the rejection of claims 13, 19 and 20 are respectfully requested.

Conclusion

Applicant believes the claims, as amended, are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with Applicants' attorney would advance the prosecution of the case to finality, he is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

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